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| EXAMINER | |
|---|---|
| RAHIM, AZIM | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/772,757 | ROCK, MICHAEL | |
| | Examiner | Art Unit | |
| | Azim Rahim | 3744 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *2-8,10,11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-8,10,11,13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 2-8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgieff et al. in view of Psaros et al. (US 5,558,087) and Hickle et al. (US 5,676,133).

Regarding claim 6, Georgieff et al. disclose a device (1 - anesthesia apparatus) for recovering one or more volatile, organic anesthetic agents from a waste anesthetic gas (see col. 2, line 66 - col. 3, line 3), the device comprising an entrance port (2 - expiration line) for accepting waste anesthetic gas from the anesthetic system (see col. 4, lines 45-46; Figure); a bypass circuit (8 - anesthetic gas transport line), wherein the bypass circuit is employed Should the air flow in the device become blocked or the power to the device be terminated (see col. 4, lines 55-60; Figure); means for moving (16 - pump device) the waste anesthetic gas stream through the device (see col. 5, lines 8-10; Figure); a first condensation chamber (17 - first pressure vessel) for removing vapor from the waste anesthetic gas (see col. 5, lines 8-10; Figure); means for (18 - compression unit) removing the condensed vapor from the first condensation chamber (see col. 6, lines 14-18) provided by one or more pumps (the compression unit [18]

functions as a pump; col. 5, lines 8-14; Figure) and the condensed vapor is removed by aerosolizing the fluid in a heat sink chamber (22 - discharge device) (as seen in the Figure); a second condensation chamber (19 - second pressure vessel) for recovering the one or more volatile, organic anesthetic agents from the waste anesthetic gas stream (as seen in the Figure); means for recovering (26 - pump device) the one or more condensed, recovered anesthetic agents from the second condensation chamber (see col. 5, lines 47-51; Figure); a storage canister or storage tank (24 - third pressure vessel) for holding the recovered anesthetic agents (see col. 5, lines 47-49; Figure); evacuating the remainder of the waste anesthetic gas stream from the device (see col. 6, lines 40-46).

Georgieff et al. do not expressly disclose the fluid to be removed from the waste anesthetic gas is water or of a means for evacuating.

Georgieff et al. further disclose that the system is designed to condense out the anesthetic agent from the system's other gas constituents (see col. 3, lines 25-57; col. 4, lines 18-30).

Psaros et al. teach of a dehumidifying device that is used to protect equipment from. condensation that may occur, during the transport fluid through the equipment (see Abstract). Psaros et al. further disclose that it is well known in the art that the water vapor in the air expired by patents that are connected to anesthetic equipment, may place the equipment in a position for high risk (see col. 1, lines 14-27).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the existing apparatus of Georgieff et al. by dehumidifying the fluid

flowing through the apparatus, as taught by Psaros et al., so to provide a means of removing any water vapor and damage that it may cause within the apparatus upon the condensing of the vapor (see col. 1, lines 14-27), thus increasing the apparatus' reliability and efficiency.

Georgieff et al. as modified by Psaros et al. do not expressly disclose a means for evacuating the remaining waste anesthetic gas from the device.

Hickle et al. teach of an apparatus that is used to prevent the contamination of a hospital's post anesthesia care unit (see Abstract). Hickle et al. further disclose of a scavenging and diagnostic system (12) that is comprised of a mask (16), which is used to administer anesthesia to a patient, a vacuum port (240), which is used to vent the used anesthesia to the atmosphere, and a housing or shell (230), which is located in-line between the mask and vacuum port, to be old in the art (see col. 7, lines 35-52; Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the existing apparatus of Georgieff et al. as modified by Psaros et al. by connecting the apparatus in-line between the component that administei's anesthesia to patients and a vacuum port, as taught by Hickle et al., so that expired gas can be easily vented to the atmosphere (see col. 7, lines 35-52), thus ensuring that the system is not overpressurized.

Regarding claim 2, Georgieff et al. disclose the recited limitations above in claim 10.

Regarding claim 3, Georgieff et al. disclose the recited limitations above in claim 11.

Regarding claim 4, Georgieff et al. as modified by Psaros et al. and Hickle et al. disclose the recited limitations above in claim 6.

Regarding claim 5, Georgieff et al. disclose the means for moving the waste anesthetic gas stream through the device is provided by one or more pumps (16 - pump device).

Regarding claim 7, Georgieff et al. disclose the means for recovering the one or more condensed, recovered anesthetic agents from the second condensation chamber is provided by one or more pumps (26 - pump device) and the recovered one or more anesthetic agents are moved from the condensation chamber to a storage canister or storage tank (24 - third pressure vessel; col. 5, lines 47-49; Figure).

Regarding claim 8, Georgieff et al. as modified by Psaros et al. and Hickle et al. disclose the recited limitations above in claim 6.

Regarding claim 20, Georgieff et al. as modified by Hickle et al. disclose the recited limitations above in claims 4 and 6.

2. Claims 10, 11, 13, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgieff et al. (US 5,520,169) in view of Jackson (US 3,592,191).

Regarding claim 13, Georgieff et al. disclose a method that is capable of being performed by the disclosed apparatus and comprises collecting the waste anesthetic gas (see col. 5, lines 60-62); recovering the one or more anesthetic agent (see col. 1, lines 60-62; col. 4, lines 42-45); wherein the cooled chamber is cooled ,by a process selected from the group consisting of heat exchange methods (the fluid transported between the second and third pressure vessels inherently exhibits a form of heat exchange with the surrounding environment; col. 5. lines 38-57; col. 6, lines 19-25) and compression/re-expansion techniques (see col. 5, lines 17-57; col. 6, lines 26-46; Figure).

Georgieff et al. further disclose that the system is configured such that both the second and third pressure vessels (19, 24) are disposed within a cooling apparatus (20) (as seen in the Figure). Further disclosed is that the temperature of the of the fluid within the pressure vessels varies as the fluid is transported through the system (see col. 5, lines col. 5, lines 17-57; col. 6, lines 26-46; Figure), thus suggesting that some sort of heat exchange occurs within the cooling chamber due to the obvious change in temperature between the second and third pressure vessels.

Georgieff et al. fail to explicitly teach the limitation of differentially condensing in a cooled chamber the one or more anesthetic agents from water vapor in the waste anesthetic gas.

Jackson explicitly teaches the limitation of differentially condensing in a cooled condenser coil the one or more anesthetic agents from water vapor in the waste anesthetic gas, disposing the condensate in a water trap (col. 4 lines 3-16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of recovering one or more volatile, organic anesthetic agents from a waste anesthetic gas of Georgieff et al. to have included the differential condensation of one or more anesthetic agents from water vapor in a cooled coil as taught by Jackson in order to reuse the excess anesthetic agent, thus reducing costs of the use of more anesthetic agents.

Regarding claim 10, Georgieff et al. disclose the one or more anesthetic agent is a potent, inhalational anesthetic agent (xenon; col. 1, lines 61-62; col. 4, lines 42-45).

Regarding claim 11, Georgieff et al. disclose the one or more anesthetic agent comprises isoflurane, desflurane, and sevoflurane (obvious design choice - the use of isoflurane as an anesthetic agent is old in the art; col. 1, lines 22-30).

Regarding claim 14, Georgieff et al. disclose the one or more recovered anesthetic agent is recycled and reused (see col. 6, lines 36-46).

Regarding claim 17, Georgieff et al. disclose the one or more recovered anesthetic agent is placed into a pressurized chamber (24 - third pressure vessel; col. 6, lines 36- 46).

3. Claims 15, 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Georgieff et al. and Jackson as applied to claim 13 above and further in view of Psaros et al.

Regarding claim 15, Georgieff et al. as modified by Jackson do not expressly disclose of dehumidifying the waste anesthetic gas and details related thereto.

As aforementioned, Psaros et al. teach of a dehumidifying device that is used to protect equipment from condensation that may occur during the transport of fluid through the equipment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the existing apparatus of Georgieff et al. as modified by Jackson, by dehumidifying the fluid flowing through the apparatus, as taught by Psaros et al., so to provide a means of removing any water vapor and damage that it may cause within the apparatus when the vapor condenses (see col. 1, lines 14-27), thus increasing the apparatus' reliability and efficiency.

Regarding claim 16, Georgieff et al. as modified by Jackson disclose a condensation chamber (24 - pressure vessel) (as seen in the Figure).

It would have been obvious to one of ordinary skill in the art at the time of the. invention that the existing apparatus of Georgieff et al. as modified by Jackson and Psaros et al. would have been capable of being modified through the incorporation of the dehumidification device into the apparatus' pressure vessel (24), so to provide a means of removing any water vapor and damage that it may cause within the apparatus upon the condensing of the vapor (see col. 1, lines 14-27), thus increasing the apparatus' reliability and efficiency.

Regarding claim 18, Georgieff et al. disclose the condensation chamber (24 - pressure vessel) is cooled by a process selected from the group consisting of heat exchange methods (the fluid transported between the second and third pressure vessels inherently exhibits a form of heat exchange with the surrounding environment; col. 5. lines 38-57; col. 6, lines 19-25) and compression/re-expansion techniques (see col. 5, lines 17-57; col. 6, lines 26-46; Figure).

Regarding claim 19, Georgieff et al. disclose a hot side of a heat exchange device (the fluid transported between the second and third pressure vessels inherently exhibits a form of heat exchange with the surrounding environment, thus further indicating that a portion of the vessels must be hotter than the remaining portions; col. 5. lines 38-57; col. 6, lines 19-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention that the existing apparatus of Georgieff et al. as modified by Jackson and Psaros et al. would have been capable of being modified through the incorporation of the discharge device (22) and discharge throttle (33) into the apparatus' cooling apparatus (20), so to provide a means of removing any residual gas constituents from the apparatus (see col. 5, lines 29-37), thus increasing the apparatus' reliability and efficiency.

***Response to Arguments***

1. Applicant's arguments with respect to claims 10,13,14,17 have been considered but are moot in view of the new ground(s) of rejection. Detailed consideration is described above.

2. Applicant's arguments filed 8/21/2007 with respect to claims 2-8,11,15,16,18-20 have been fully considered but they are not persuasive.

With respect to claims 2-8, and 20, Applicants argue that nowhere in the disclosure of the '169 patent is mentioned or even suggested that water vapor must be removed from the respiratory gas after it has passed through the sorption filter or purification unit of the '169 patent. Examiner respectfully disagrees. The limitation in claims 6 and 20 read as, "the first condensation chamber **for removing water vapor from the waste gas anesthetic**" (emphasis added). This limitation is merely an intended use limitation, which is only given limited patentable weight. The condensation

chamber is fully capable of removing water vapor from the waste anesthetic gas, since a patient breathes out air that can be condensed into water vapor. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). Therefore the rejection of claims 2-8,11 and 20 stand rejected.

With respect to claims 11,15,16,18,19, Applicants argue that the mere mention of a known anesthetic agent in the '169 patent is simply insufficient to render the invention of claim 11 obvious. Examiner respectfully disagrees. Col. 1 lines 22-30 explicitly discloses that isoflurane is an anesthetic agent. Also, claim 11 has been presented in the alternative, so that the prior art only has to disclose one of the isoflurane, desflurane, or sevoflurane. Therefore the rejection of claims 11,15,16,18,19 stand rejected.

***Conclusion***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Azim Rahim whose telephone number is 571-270-1998. The examiner can normally be reached on Mon - Thur 8am - 4:30pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached at 571-272-6681 or Cheryl Tyler at 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR 10/17/2007

FRANTZ JULES
SUPERVISORY PATENT EXAMINER